

BIBLIOGRAPHY

C. FITZHUGH TALMAN, in charge of Library

RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

Abbot, C. G.

Über Temperaturen in Washington und kurzperiodische Veränderungen in der Intensität der Sonnenstrahlung. p. 735-746. figs. 24½ cm. (Strahlentherapie. 39. Bd. (1931).)

Banerji, Sudhansu Kumar.

Effect of Indian mountain ranges on air motion. Calcutta. [1930.] p. 699-745. figs. 25 cm. (Repr.: Indian journ. physics. v. 5, pt. 7.)

Conrad, V., & Huber, H.

Zur Reaktionsgeschwindigkeit beim Campbell-Stokeschen Sonnenscheinautographen. p. 376-381. 24½ cm. (Strahlentherapie. 39. Bd. (1931).)

Davis, Raymond, & Gibson, K. S.

Filters for the reproduction of sunlight and daylight and the determination of color temperature. Washington. 1931. 165 p. figs. 23½ cm. (Misc. pub. Bur. stand. no. 114. Jan. 21, 1931.)

Faber, O. M.

Physikalische Staubbestimmungen. Halle. 1930. vi, 60 p. figs. 21 cm. (Messen und Prüfen. H. 2.)

Free, E. E.

Soot particles in New York City air. p. 9-12, 1-2. 28½ cm. (Trans. Amer. soc. mech. engin. v. 53, no. 1, Jan. Apr. 1931.)

Gorczyński, Władysław.

Über hohe Werte der Sonnenstrahlungs-Intensität, die auf den Ozeanen, an Landstationen und in den höheren Luftschichten beobachtet wurden. p. 588-600. 24½ cm. (Strahlentherapie. 39. Bd. (1931).)

Joerg, W. L. G.

Brief history of polar exploration since the introduction of flying. To accompany a physical map of the Arctic and a bathymetric map of the Antarctic. 2nd. rev. ed. New York. 1930. 95 p. figs. maps. 25½ cm.

Jones, Inigo.

Seasonal forecasting. Brisbane. 1930. 8 p. plate. 24 cm.

Simpson, G. C.

Thunder and lightning, being the thirty-second Robert Boyle lecture . . . Oxford. 1930. p. 103-113. plate. 21½ cm.

Sjöström, Martin.

Pyrheliometric measurements of the solar radiation in Upsala during the years 1909-1922. . . . Uppsala. (1930.) 209 p. figs. 29 cm. (Nova acta reg. soc. sci. Upsal. ser. 4, v. 6, No. 6.)

Spurr, Henry Vose.

Wind bracing; the importance of rigidity in high towers. 1s. ed. New York. 1930. x, 132 p. illus. diagrs. 24 cm

SOLAR OBSERVATIONS

SOLAR RADIATION MEASUREMENTS OBTAINED DURING MARCH, 1931

By HERBERT H. KIMBALL

For a description of instruments employed and their exposures, the reader is referred to page 41 of this volume of the REVIEW.

Table 1 shows that solar radiation intensities averaged slightly above the normal intensity for March at Madison, Wis., and Lincoln, Nebr., and close to normal at Washington, D. C. But few observations were obtained at the latter station on account of unusually cloudy conditions during the month.

Table 2 shows a deficiency in the total solar radiation received on a horizontal surface directly from the sun and diffusely from the sky at all stations for which normal values have been established, except at Gainesville, Fla., Twin Falls, Idaho, and Fresno, Calif., which report a considerable excess.

Skylight polarization measurements were obtained at Washington on only two days. They give a mean percentage of 56, with a maximum of 60 per cent on the 25th. At Madison, a measurement made on the 28th gave a percentage of 66. These are not far from average values for March at the respective stations.

SOLAR RADIATION MEASUREMENTS FROM TULANE UNIVERSITY, NEW ORLEANS, LA.

With this month there appears in Table 2 for the first time solar radiation data from Tulane University, New Orleans, La., latitude 29° 56' N., longitude 90° 7' W., altitude, 40 feet above sea level. The data are furnished by Prof. Henry Laurens, department of physiology of the university.

With reference to the exposure of the pyrheliometer, Professor Laurens writes that it is on a platform 40 feet above sea level, and a sketch which he furnishes shows buildings and trees in its vicinity somewhat higher than the platform. While it does not appear that any of these objects should cut off the direct rays of the sun except

when the latter is near the horizon, they will cut off a considerable amount of sky radiation. The hourly totals are thereby reduced by a small but known amount.

The Eppley pyrheliometer was carefully standardized at this office before it was sent to Professor Laurens. The records are reduced by him, using our calibration results.

TABLE 1.—Solar radiation intensities during March, 1931

[Gram-calories per minute per square centimeter of normal surface]

Washington, D. C.

Date	Sun's zenith distance											Local mean solar time
	8 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	Noon	
	75th mer. time	Air mass										
		A. M.						P. M.				
		e.	5.0	4.0	3.0	2.0	1.0	2.0	3.0	4.0	5.0	
mm.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mm.		
Mar. 4	3.00			0.88							2.62	
Mar. 5	2.49		0.76	0.89	1.13						2.49	
Mar. 11	8.38		0.86	0.92							2.26	
Mar. 12	8.55		0.83	1.00	1.19						2.16	
Mar. 13	2.49		0.92	1.03	1.28						2.74	
Mar. 18	3.45		0.84	0.98	1.20						3.45	
Mar. 24	3.00		0.74								3.45	
Mar. 26	5.16		0.62	0.81	1.00						5.16	
Means			0.80	0.93	1.16							
Departures			+0.00	-0.02	+0.01							

Madison, Wis.

Mar. 2	2.16	0.97	1.08	1.20	1.36		1.35					2.36
Mar. 3	2.62		1.04	1.17								2.36
Mar. 4	1.96	1.04	1.03	1.16								1.88
Mar. 9	2.16						1.30					1.45
Mar. 10	1.96			1.25	1.43							1.52
Mar. 11	2.49						1.33					2.36
Mar. 25	3.99				1.30							3.81
Mar. 30	2.16		1.03	1.16	1.29	1.53	1.31					2.49
Means		(1.00)	1.04	1.20	1.34		1.32					
Departures		+0.02	+0.01	+0.04	+0.03		+0.03					

1 Extrapolated.